REMARKS

Favorable reconsideration of this application is respectfully requested in view of the claim amendments and following remarks.

Status of Claims

Claims 1-7, 10-28, and 30-36 are currently pending in the application of which claims 1, 19, 24, and 35 are independent. Claims 13-18 and 30-34 are withdrawn from consideration. Claims 8-9, 29, and 37 are canceled. Claims 1-7, 10-12, 19-28, and 35-36 are rejected.

Summary of the Office Action

Claims 1-4, 19-20, 23-27, and 35 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 7,644,167 to Lee et al. (hereinafter "Lee").

Claims 35-36 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter.

Claim 24 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 6-7, 12, 24, and 35 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0152293 to Hahn et al. (hereinafter "Hahn") in view of U.S. Patent No. 5,805,593 to Busche, and further in view of U.S. Patent No. 5,491,690 to Alfonsi et al. (hereinafter "Alfonsi").

Claims 2-5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche and Alfonsi, and further in view of U.S. Patent Application Publication No. 2004/0221154 to Aggarwal.

Claims 10-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche and Alfonsi, and further in view of U.S. Patent Application Publication No. 2005/0122904 to Kumar.

Claims 19-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche, Alfonsi, U.S. Patent Application Publication No. 2005/0030904 to Oom Temudo de Castro et al. (hereinafter "Castro"), and further in view of U.S. Patent No. 5,345,444 to Cloonan et al. (hereinafter "Cloonan").

Claims 21-23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche, Alfonsi, Castro, and Cloonan, and further in view of U.S. Patent Application Publication No. 2004/0008687 to Matsubara.

Claims 25-29 and 36 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche and Alfonsi, and further in view of Aggarwal.

Drawings

The Office Action did not indicate whether the formal drawings filed with the application are accepted. Indication of acceptance of the drawings is requested.

Claim Rejection Under Double Patenting

Claims 1-4, 19-20, 23-27, and 35 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of Lee. This rejection is traversed. The rejection correctly states that claims 1-4, 19-20, 23-27, and 35 are not the same as the claims of Lee but merely makes a conclusory statement that the claims are not patentably distinct because the differences are obvious variations. The rejection never provides any support for why the differences are obvious variations, thus the rejection is improper and must be withdrawn.

Furthermore, the differences are substantial. Claim 1 of the present application recites the following features not recited in the claims of Lee:

> searching stored information at a node receiving the request for at least one of a service path and a service node operable to provide the requested service;
>
> searching the stored information to identify a plurality of service nodes operable to provide the requested service in response to a service path not existing that is operable to provide the requested service; …
>
> wherein the information is stored in the node by
>
> receiving location information for the plurality of nodes;
>
> receiving information associated with services provided by the plurality of nodes; and
>
> storing the location information and the information associated with services.

As can be seen above, there are many differences between claim 1 and Lee, and these differences cannot be considered obvious variants. Non-obvious differences also exist for independent claims 19, 24, and 35. Thus, the rejection must be withdrawn.

Claim Rejection Under 35 U.S.C. §101

Claims 35-36 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Independent claim 35 has been amended to recite "non-transitory" and thus claims 35-36 are believed to be statutory.

Claim Rejection Under 35 U.S.C. §112, 2nd Paragraph

Claim 24 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The rejection states, "since no function is specified by the word(s) preceding "means for," within the applicant's specification it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb,* 159 USPQ 694 (Bd. App. 1967)."

Clearly, claim 24 recites a function for each means, such as "for receiving", "for searching", and "for applying a clustering algorithm". Furthermore, the specification describes the software and hardware performing these functions. Thus, the specification provides support for these features on at least page 33, lines 11-18. Thus, the rejection must be withdrawn.

Claim Rejections Under 35 U.S.C. §103(a)

The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in *KSR International Co. v. Teleflex Inc.*, 550 U.S.398, 82 USPQ2d 1385 (2007):

> "Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be

> utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." Quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966).

As set forth in MPEP 2143.03, to ascertain the differences between the prior art and the claims at issue, "[a]ll claim limitations must be considered" because "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385. According to the Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in view of *KSR International Co. v. Teleflex Inc.*, Federal Register, Vol. 72, No. 195, 57526, 57529 (October 10, 2007), once the *Graham* factual inquiries are resolved, there must be a determination of whether the claimed invention would have been obvious to one of ordinary skill in the art based on any one of the following proper rationales:

> (A) Combining prior art elements according to known methods to yield predictable results; (B) Simple substitution of one known element for another to obtain predictable results; (C) Use of known technique to improve similar devices (methods, or products) in the same way; (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (E) ''Obvious to try''—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. *KSR International Co. v. Teleflex Inc.*, 550 U.S.398, 82 USPQ2d 1385 (2007).

Furthermore, as set forth in *KSR International Co. v. Teleflex Inc.*, quoting from *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006), "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasonings with some rational underpinning to support the legal conclusion of obviousness."

Therefore, if the above-identified criteria and rationales are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

- **Claims 1, 6-7, 12, 24, and 35**

Claims 1, 6-7, 12, 24, and 35 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche, and further in view of Alfonsi.

Claim 1 recites,

> applying a clustering algorithm to the plurality of service nodes to identify a set of candidate service nodes from the plurality of service nodes closest to a node requesting the service and to further reduce the size of the set of candidate service nodes.

The rejection correctly admits Hahn in view of Busche does not disclose these features, but asserts Alfonsi discloses these features. In particular, the rejection states,

> Alfonsi et al teach the specified deficiencies (see col. 11, lines 5-14, which discloses the Bellman-Ford algorithm for choosing a destination node that meets quality of service requirements and determining the minimum hop and path length and an updated algorithm used to reduce the number or eligible nodes for path calculation).

The Bellman-Ford algorithm disclosed in col. 11, lines 5-14 of Alfonsi does not choose a destination node as alleged in the rejection. Instead, the Bellman-Ford algorithm in Alfonsi selects a single route that is the most optimum route in a network to a destination node. See col. 10, lines 56-65. Thus, Alfonsi does not disclose applying a cluster algorithm to identify a plurality of candidate service nodes.

As indicated above, the rejection asserts that col. 11, lines 5-14 of Alfonsi discloses an updated algorithm used to reduce the number or eligible nodes for path calculation. In this passage, Alfonsi discloses that the modified Bellman-Ford algorithm makes no assumption on the network geographical configuration … and the purpose of the invention is to reduce the number of nodes for the path calculation. Alfonsi describes the path calculation in more detail in col. 13, lines 40-60. A node stores network configuration information, including an indication of whether nodes in the network configuration are backbone nodes or local nodes. The node determines attributes for each link and selects usable links for each destination node. Then, when a connection request is received, the pre-selected usable links are used to select the path to the destination node. Thus, Alfonsi characterizes nodes as backbone nodes or local nodes and selects a path from pre-selected usable links. However, Alfonsi does not disclose determining a set of candidate service nodes that are closest to a node requesting the service.

Independent claim 24 recites, *inter alia*, "means for applying a clustering algorithm to the plurality of service nodes to identify a set of candidate service nodes from the plurality of service nodes closest to a node requesting the service and to further reduce the size of the set of candidate service nodes." Thus, claim 24 recites certain features similar to those recited in independent claim 1 above.

Independent claim 35 recites, *inter alia*, "applying a clustering algorithm to the plurality of service nodes to identify a set of candidate service nodes from the plurality of service nodes closest to a node requesting the service and to further reduce the size of the set of candidate service nodes." Thus, claim 35 recites certain features similar to those recited in independent claim 1 above.

For at least these reasons, claims 1, 6-7, 12, 24, and 35 are believed to be allowable.

- **Claims 2-5**

Claims 2-5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche and Alfonsi, and further in view of Aggarwal. Claims 2-5 are believed to be allowable at least for the reasons their independent claim is believed to be allowable.

- **Claims 10-11**

Claims 10-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche and Alfonsi, and further in view of Kumar. Claims 10-11 are believed to be allowable at least for the reasons their independent claim is believed to be allowable.

- **Claims 19-20**

Claims 19-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche, Alfonsi, Castro, and further in view of Cloonan.

Independent claim 19 recites, *inter alia*, "applying a clustering algorithm to the plurality of service nodes to identify a set of candidate service nodes from the plurality of service nodes closest to a node requesting the service and to further reduce the size of the set of candidate service nodes". Thus, claim 19 recites certain features similar to those recited in independent claim 1 above. Therefore, claims 19-20 are believed to be allowable.

- **Claims 21-23**

Claims 21-23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche, Alfonsi, Castro, and Cloonan, and further in view of Matsubara. Claims 21-23 are believed to be allowable at least for the reasons their independent claim is believed to be allowable.

- **Claims 25-29 and 36**

Claims 25-29 and 36 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hahn in view of Busche and Alfonsi, and further in view of Aggarwal. Claims 25-29 and 36 are believed to be allowable at least for the reasons their independent claim is believed to be allowable.

Conclusion

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited. Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below. Please grant any required extensions of time and charge any fees due in connection with this request to Deposit Account No. 08-2025.

Respectfully submitted,

Dated: November 3, 2010 By /Ashok K. Mannava/

Ashok K. Mannava
Registration No. 45,301
(703) 652-3822

MANNAVA & KANG, P.C.
11240 Waples Mill Road
Suite 300
Fairfax, VA 22030
(703) 865-5150 (facsimile)